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Calculation of concentration fields of high-inertia aerosol particles in the flow past a cylindrical fibre

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Abstract

© Published under licence by IOP Publishing Ltd. The behaviour of high-inertia aerosol particles' concentration fields in stationary gas suspension flows around a cylinder is investigated using a numerical solution to the Navier-Stokes equations and the fully Lagrangian approach for four Stokes numbers (Stk = 0.1, 1, 4, 10) and three Reynolds numbers (Re = 1, 10, 100). It has been shown that the points of maximum particle concentration along each trajectory shift downstream both when Stk and/or Re increase.

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